

Claims:

1. A one-piece blank foldable into a container having at least six side panels and at least two bottom panels, said container comprising:

(a) at least two compartments, said compartments separated by a transverse rib and two vertical ribs, said ribs being disposed into said compartments at a 90° angle from said bottom panels and said side panels, respectively; and

(b) four reinforced corners.

2. A one-piece blank of claim 1, wherein said transverse rib is formed by folding said blank along three generally parallel scored fold lines across said blank, the middle one of said three fold lines becoming the innermost edge of said transverse rib and said vertical ribs.

3. A one-piece blank of claim 2, wherein said middle fold line consists of two curved lines displaced from the centerline, said curved lines defining the innermost edge of said transverse rib, said innermost edge being wider at the ends adjacent the side panels and narrowest at the center.

4. A one-piece blank of claim 3, wherein said innermost edge of said transverse rib is notched adjacent said side panels for receiving said vertical ribs.

5. A one-piece blank of claim 2, wherein said vertical ribs are formed by folding said blank along three generally parallel scored fold lines, the middle one of said fold lines being on the centerline of said transverse rib and the adjacent two fold lines being substantially parallel to the corresponding fold lines defining the base of said transverse rib, the folding of said transverse rib and said vertical ribs being carried out simultaneously, thereby producing a blank having at least one transverse rib and two

corresponding vertical ribs disposed at a 90° angle with respect to the blank.

6. A one-piece blank of claim 1, wherein at least one of said reinforced corners is formed by folding at least once a tab at a corner of said blank to form a reinforcing panel and joining said panel to an adjacent side panel.

7. A one-piece blank of claim 1, wherein at least one of said reinforced corners consists of a substantially triangular reinforcement resulting from folding three times a tab at each corner of said blank, thereby forming three panels, two of said panels for abutting two of said adjacent side panels, and the third of said panels being disposed at an angle with respect to said side panels.

8. A one-piece blank of claim 1, further comprising pairs of openings and tabs in at least one side panel for aligning said container with a corresponding container placed above or below said container.

9. A one-piece blank of claim 1, wherein at least one of said reinforced corners is formed by folding twice a tab at each corner of said blank, thereby forming two panels, one of said two panels abutting a first adjacent side panel, and the second of said two panels being integral with a second adjacent side panel and disposed at an angle with respect to said first and second adjacent side panels.

10. A one-piece blank of claim 5, wherein said vertical ribs are cut along a portion of the middle one of said fold lines, thereby permitting the transverse rib to be disposed within said vertical ribs.

11. A one-piece blank of claim 5, wherein said middle fold line of said vertical ribs consists of two narrowly-

spaced parallel fold lines, said narrowly-spaced fold lines defining the innermost edge of said vertical ribs.

12. A one-piece blank of claim 10, wherein each end of said transverse rib is removed on a first side forming an opening and a tab is formed from the adjacent side, said tab being extended through said opening in said first side and under said vertical ribs when said transverse rib engages said vertical ribs.

13. A one-piece blank of claim 10, wherein said vertical ribs further contain a notch along said middle fold line.

14. A one-piece blank of claim 10, wherein said transverse rib is cut along a portion of the middle one of said fold lines and a triangular fold is made on each side of said transverse rib at each end for contact with said vertical ribs.

15. A one-piece blank of FIG. 1.

16. A one-piece blank of FIG. 7.

17. A one-piece blank of FIG. 13.

18. A one-piece blank of FIG. 19.

19. A one-piece blank foldable into a container having at least six side panels (430B, 430G, 420, 460B, 460E, 470) and at least two bottom panels (460A, 430A), said container comprising:

(a) at least two compartments, said two compartments separated by a transverse rib (440A, 450A) extending at a 90° angle from said bottom panels to the top of said side panels, and

(b) a first supporting panel (440D, 440G, 450D, 450G) attached to a first side panel (430B, 430G, 460B, 460E) adjacent to a first end of said transverse rib is disposed and secured at a 90° angle from said first side panel of said container and abutting said transverse rib.

20. A one-piece blank of claim 19, wherein a second supporting panel (440D, 440G, 450D, 450G) attached to a second side panel (430B, 430G, 460B, 460E) adjacent said first end of said transverse rib is disposed and secured at a 90° angle from said second side panel and abutting said transverse rib on the side opposite said first supporting panel.

21. A one-piece blank of claim 19, wherein a second supporting panel (440D, 440G, 450D, 450G) attached to a second side panel adjacent said first end of said transverse rib is disposed adjacent and secured to said first side panel (430B, 430G, 460B, 460E) adjacent said first end of said transverse rib.

22. A one-piece blank of claim 21, wherein a third supporting panel (440D, 440G, 450D, 460G) attached to a third side panel (430B, 430G, 460B, 460E) adjacent to a second end of said transverse rib is disposed and secured at a 90° angle from said third side panel and abutting said transverse rib and a fourth supporting panel (440D, 440G, 450D, 460G) attached to a fourth side panel (430B, 430G, 460B, 460E) adjacent the second end of said transverse rib is disposed adjacent and secured to said third side panel adjacent said second end of said transverse rib.

23. A one-piece blank of claim 20, wherein a third supporting panel (440D, 440G, 450D, 450G) attached to a third side panel (430B, 430G, 460B, 460E) adjacent to a second end of said transverse rib is disposed and secured at a 90° angle from said third side panel and abutting said

transverse rib and a fourth supporting panel (440D, 440G, 450D, 450G) attached to a fourth side panel (430B, 430G, 460B, 460E) adjacent to a second end of said transverse rib is disposed and secured at a 90° angle from said fourth side panel and abutting said transverse rib on the side opposite said third supporting panel.

24. A one-piece blank of any one of claims 19-23, wherein said transverse rib consists of two connected panels of said blank folded to be adjacent to one another and secured together to form a unitary rib.

25. A one-piece blank of FIG. 27.

26. A stackable container having a unitary construction and folded from a one-piece blank stock comprising:

(a) at least six side panels and two integral bottom panels forming at least two compartments, each of said compartments being separated by a set of one transverse rib and two vertical ribs, said ribs being disposed into said compartments at a 90° angle from said bottom panels and said side panels, respectively; and

(b) four reinforced corners.

27. A stackable container of claim 26, wherein each of said transverse ribs extends between opposed sets of side panels and has two sides, each integral with each other and with the bottom of the adjacent compartment.

28. A stackable container of claim 26, wherein each of said two vertical ribs has two sides, each integral with each other and with two adjacent side panels and one end of each vertical rib engages an end of said transverse rib.

29. A stackable container of claim 27, wherein each of said transverse ribs is curved on the innermost edge and

wider at the ends adjacent to the side panels and narrower at the center.

30. A stackable container of claim 28, wherein each of said transverse ribs is notched adjacent said side panels for receiving said vertical ribs.

31. A stackable container of claim 26, wherein at least one of said corners is reinforced by a tab at the corresponding corner of the blank, said tab being folded at least once to form a reinforcing panel and said panel is attached to an adjacent side panel.

32. A stackable container of claim 26, wherein at least one of said corners is reinforced by a tab formed at the corresponding corner of the blank, said tab being folded into three panels, two of said panels being glued to adjacent side panels with the third panel extending between said adjacent side panels at an angle to each.

33. A stackable container of claim 26, wherein at least one of said corners is formed by a tab at the corresponding corner of the blank, said tab being folded into two panels, one of said panels being attached to a first adjacent side panel, and the second of said panels being integral with a second adjacent side panel and disposed at an angle with respect to said first and second adjacent side panels.

34. A stackable container of claim 28, wherein each of the sides of said vertical ribs is disposed outside the corresponding sides of said transverse ribs.

35. A stackable container of claim 34, wherein said vertical ribs are wider than said transverse rib.

36. A stackable container of claim 34, wherein said transverse rib comprises a tab at each end passing under the

end of the corresponding vertical rib and attached to the side of said vertical rib.

37. A stackable container of claim 34, wherein each end of said transverse rib comprises a triangular fold on each side, the vertical ribs being disposed outside of and in contact with said triangular folds.

38. A stackable container having unitary construction and folded from a one-piece blank stock comprising:

(a) at least six side panels and two integral bottom panels forming at least two compartments, each of said compartments being separated by a transverse rib extending at a 90° angle from said bottom panels to the top of said side panels;

(b) four supporting panels, each panel attached to the adjacent one of said side panels and folded and secured to said transverse rib or to the side panel abutting the said adjacent one of said side panels; and

(c) four reinforced corners.

39. A stackable container of claim 38, wherein at least one of said reinforced corners consists of a substantially triangular reinforcement resulting from folding three times a tab at each corner of said blank, thereby forming three panels, two of said panels abutting two of said adjacent side panels and the third of said panels being disposed at an angle with respect to said side panels.

40. A one-piece blank of claim 38, wherein at least one of said reinforced corners is formed by folding twice a tab at each corner of said blank, thereby forming two panels, one of said two panels abutting a first adjacent side panel, and the second of said two panels being integral with a second adjacent side panel and disposed at an angle with respect to said first and second adjacent side panels.

41. A stackable container of claim 38, wherein each said four supporting panels is secured to said transverse rib.

42. A stackable container of claim 38, wherein a first of said supporting panels is secured to a first end of said transverse rib and a second of said supporting panels is secured to a second end of said transverse rib and the third and fourth of said supporting panels are secured to the side panels abutting the adjacent ones of said side panels.

43. A method of forming from a one-piece blank a container having at least two compartments and comprising at least six side panels and at least two bottom panels separated by a transverse rib and two vertical ribs, the ribs being disposed into said compartments at a 90° angle from said bottom panels and side panels respectively comprising:

(a) forming said transverse rib by folding said blank along three generally parallel fold lines across said blank, the middle one of said three fold lines becoming the innermost edge of said transverse rib and said vertical ribs and the outermost fold lines defining the bottom of said transverse rib and the intersection of the vertical ribs and the adjacent side walls;

(b) forming said side panels by folding said panels at a 90° angle from said blank folded in (a), said vertical ribs engaging said transverse rib; and

(c) reinforcing the corners of said container where two of said side panels meet by folding at least once a tab at each of said corners to form a reinforcing panel and securing said panel to an adjacent side wall.

44. A method of claim 43, wherein said vertical ribs engage the outside of the ends of said transverse rib.



45. A method of claim 43, wherein said vertical ribs engage the inside of the ends of said transverse rib.

46. A method of forming from a one-piece blank, a container having at least two compartments comprising at least six side panels and at least two bottom panels separated by a transverse rib secured by four supporting panels comprising:

(a) forming said transverse rib by folding said blank along a first fold line extending across said blank and defining the top of said transverse rib and thereafter folding said blank at a 90° angle along two fold lines parallel to said first fold line and defining the bottom edges of said transverse rib;

(b) securing together the two sides of said transverse rib formed in (a);

(c) forming said side panels by folding said side panels at a 90° angle from said folded blank of (b) and defining said two compartments in combination with said transverse rib;

(d) folding said four supporting panels attached to respective side panels adjacent to said transverse rib and securing said supporting panels to the transverse rib or to a side panel abutting said respective side panel abutting said transverse rib; and

(e) reinforcing the corners of said container where two of said side panels meet by folding at least once a tab at each corner of said blanks to form a reinforcing panel and securing said panel to an adjacent side wall.

47. A method of claim 46, wherein said four supporting panels are disposed adjacent and secured to said transverse rib.

48. A method of claim 46, wherein two of said supporting panels are disposed adjacent and secured to said transverse rib and two of said supporting panels are

disposed adjacent and secured to side panels abutting the adjacent ones of said respective side panels.

49. A stackable container having unitary construction and folded from a one-piece blank stock comprising:

(a) at least six side panels and two integral bottom panels forming at least two compartments, each of said compartments being separated by a transverse rib extending at a 90° angle from said bottom panels to the top of said side panels, two of said side panels being longer than their respective container sides and extending into secured contact with their adjacent side panels;

(b) two supporting panels, each panel foldably attached to their adjacent side panels of the same length as their respective container sides and folded and secured to said transverse rib on the side opposite its adjacent side panel, and

(c) four reinforced corners.

50. A stackable container of claim 49, wherein at least one of said reinforced corners consists of a substantially triangular reinforcement resulting from folding three times a tab at each corner of said blank, thereby forming three panels, two of said panels abutting two of said adjacent side panels and the third of said panels being disposed at an angle with respect to said side panels.

51. A one-piece blank of claim 49, wherein at least one of said reinforced corners is formed by folding twice a tab at each corner of said blank, thereby forming two panels, one of said two panels abutting a first adjacent side panel, and the second of said two panels being integral with a second adjacent side panel and disposed at an angle with respect to said first and second adjacent side panels.

52. A method of forming from a one-piece blank a container having at least two compartments and comprising at least six side panels and at least two bottom panels separated by a transverse rib extending to the top of said side panels, two of said side panels being longer than their respective container sides, two of said side panels being the same length as their respective container sides and having foldably attached panels for securing to said transverse rib, comprising:

(a) forming said transverse rib by folding said blank along a first fold line extending across said blank and defining the top of said transverse rib and thereafter folding said blank at a 90° angle along two fold lines parallel to said first fold line and defining the bottom edges of said transverse rib;

(b) securing together the two sides of said transverse rib formed in (a);

(c) forming said side panels by folding said side panels at a 90° angle from said folded blank of (b) and defining said two compartments in combination with said transverse rib;

(d) securing said two longer side panels to their adjacent side panels;

(e) folding said foldably attached panels and securing each of said foldably attached panels to said transverse rib on a side opposite the side panel to which the foldable panel is attached;

(f) reinforcing the corners of said container where two of said side panels meet by folding at least once a tab at each corner of said blank to form a reinforcing panel and securing said panel to an adjacent side wall.

53. A method of claim 52, wherein said tabs at each corner of said blank are folded three times to form three panels, and securing one of said panels to each of two adjacent side panels, with the third of said panels being disposed at an angle with respect to said side panels.

54. A stackable container having unitary construction and folded from a one-piece blank stock comprising:

(a) at least six side panels and two integral bottom panels forming at least two compartments, each of said compartments being separated by a transverse rib extending at a 90° angle from said bottom panels to the top of said side panels, two of said side panels being longer than their respective container sides and extending into secured contact with their adjacent side panels;

(b) two supporting panels, each panel foldably attached to a face of said transverse rib and folded and secured to a side panel adjacent to the opposing face of said transverse rib, and

(c) four reinforced corners.

55. A stackable container of claim 54, wherein at least one of said reinforced corners consists of a substantially triangular reinforcement resulting from folding three times a tab at each corner of said blank, thereby forming three panels, two of said panels abutting two of said adjacent side panels and the third of said panels being disposed at an angle with respect to said side panels.

56. A one-piece blank of claim 54, wherein at least one of said reinforced corners is formed by folding twice a tab at each corner of said blank, thereby forming two panels, one of said two panels abutting a first adjacent side panel, and the second of said two panels being integral with a second adjacent side panel and disposed at an angle with respect to said first and second adjacent side panels.

57. A method of forming from a one-piece blank a container having at least two compartments and comprising at least six side panels and at least two bottom panels separated by a transverse rib extending to the top of said

side panels, two of said side panels being longer than their respective container sides, two of said side panels being the same length as their respective container sides, said transverse rib having a panel foldably attached to one end of each face thereof, comprising:

(a) forming said transverse rib by folding said blank along a first fold line extending across said blank and defining the top of said blank at a 90° angle along two fold lines parallel to said first fold line and defining the bottom edges of said transverse rib;

(b) securing together the two sides of said transverse rib formed in (a);

(c) forming said side panels by folding said side panels at a 90° angle from said folded blank of (b) and defining said two compartments in combination with said transverse rib;

(d) securing said two longer side panels to their adjacent side panels;

(e) folding said foldably attached panels at one end of each face of said transverse rib and securing each of said foldably attached panels to a side panel adjacent the opposite face of said transverse rib;

(f) reinforcing the corners of said container where two of said side panels meet by folding at least once a tab at each corner of said blank to form a reinforcing panel and securing said panel to an adjacent side wall.

58. A method of claim 57, wherein said tabs at each corner of said blank are folded three times to form three panels, and securing one of said panels to each of two adjacent side panels, with the third of said panels being disposed at an angle with respect to said side panels.

59. A one-piece blank of FIG. 33.

60. A one-piece blank of FIG. 39.